

REMARKS/ARGUMENTS

Reconsideration of this application in light of the above amendments and following comments is courteously solicited.

Initially, it should be noted that previously submitted dependent claim 25 has been canceled. A new set of claims 36-54 have been presented for examination. None of the claims presented for examination set forth a plurality of actuating elements as was recited in previously submitted dependent claim 25. Accordingly, it is respectfully submitted that the drawing objection raised by the Examiner is moot as is the objection to the specification.

The Examiner rejected previously submitted independent claim 1 under 35 U.S.C. 102(b) as being anticipated by U.S. 5,615,806. The Examiner has likewise cited U.S. 6,672,486 in rejecting previously submitted claims under 35 U.S.C. 103. As to how these rejections apply to the claims as amended herein, they are respectfully traversed.

New independent claim 36 sets forth with specificity the details of the dosing device of the present invention and the interaction of the discharge opening (62.1) as a connection between outlet (8.1) and the nozzle (20.1). For the convenience of the Examiner, the operation of the dosing device of the present invention will be explained in more detail hereinbelow.

The mode of operation of the present invention is the following. Having screwed the dosing device P_1 (and also the other dosing devices P_2 to P_4) onto a container, the device is in the starting position, in which the actuating element 1.1 (and also actuating elements 1.2 to 1.4) is in a depressed position. In this position the actuating element 1.1 is turned so that the arrow 84 points in the direction of the indicator 83.1 for the "CLOSED" setting (Annex 1). The discharge opening 62.1, as the

connection between the outlet duct 8.1 of the nozzle 20.1 and the riser 7.1, is cut off.

Through pulling on the actuating element 1.1 underpressure is generated and draws liquid or the like out of the container via the suction tube 31 through the inlet 60 into the dosing and displacement chamber 61, by the ball valve 4 being lifted out of its sealing fit. The desired dosage can be read off from the scale 70, which juts out over the top side 14 of the screw fastening 30.

In order to dispense the drawn-in liquid, the actuating element 1.1 is rotated until the arrow 84 is pointing at the indicator 82.1 for the "OPEN" setting, see original Figure 1. Now the discharge opening 62.1 connects the outlet duct 8.1 of the nozzle 20.1 with the riser 7.1

Next, the actuating element 1.1, together with the plunger 2, is pressed downward again. The liquid or the like can only take the path through the riser 7.1 and makes its way to the discharge opening 62.1 into the outlet duct 8.1 of the nozzle 20.1.

Once the stroke is completed, the actuating element 1.1 must be brought by rotation back into the rest position or bearing position. The discharge opening 62.1 is again cut off as can be seen in Annex 1.

The second embodiment differs only in that the actuating element 1.2 is configured differently. The actuating element is inserted directly in the dosing and displacement device. Also the design of the nozzle 20.2 differs. The nozzle is disposed rotatably in the actuating element and the discharge opening 62.2 serves in an "OPEN" setting of the nozzle as a connection between a riser 7.2 of the actuating element and the outlet duct 8.2 of the nozzle. In the "CLOSED" setting of the nozzle, the

discharge opening is turned away from the riser.

The third embodiment differs in that instead of a nozzle, a turning lever 19 is provided which crosses the riser 7.3 of the actuating element 1.3 and has a discharge opening 62.3 in the form of a transverse bore.

In a fourth embodiment, a discharge opening 62.4 is provided in a cap 22 on an arm 21 protruding from the actuating element 1.4. The discharge opening enters into correspondence with the riser 7.4 when the cap is rotated into the "OPEN" setting and vice versa.

The general handling of the device, i.e. pulling on the actuating element until the desired volume is reached, rotation of the actuating element/nozzle/lever/cap so as to bring the discharge opening into connection with the riser and the outlet duct, pressing down of the actuating element so as to deliver the product, rotation of the actuating element/nozzle/lever/cap so as to lock the device in the rest position is not at all taught by the cited prior art.

In the main citation by Grothoff (U.S. 5,615,806), the plunger is generally locked against reciprocation in its up and inoperative position. In order to dispense product from the container the plunger head is simply rotated about its central axis through about 90° in the direction of the "open" arrow. Upon depression of the plunger head the piston stem shifts relative to the piston cup exposing discharge ports to product in pump chamber such that continued depression of the head reciprocates the piston within its cylinder pressurizing the liquid product in the pump chamber forcing it through the discharge ports, discharge passage and outwardly through the spout, as in a known manner. Upon removal of the downwardly applied manual force to the head, the return spring shifts the

piston stem relative to the piston back to its at-rest position whereupon the pump chamber volume expands such that a corresponding drop in pressure therein suctions product from the container up through the dip tube and the unseated inlet ball check valve and into the pump chamber.

At the end of the plunger upstroke, when it is desired to lock the plunger against the reciprocation in its up and inoperated position, the plunger head is simply rotated again about its central axis through about 90° in the direction of the "close" arrow.

So here we have the actions of opening/unlocking, suctioning, dispensing and closing/locking. The operations performed in the present invention are closing/locking, suctioning, open/unlocking, dispensing. This is a big difference.

A further difference is that Grothoff '806 discloses a return spring, which automatically shifts the piston stem relative to the piston back to its at-rest position upon removal of the downwardly applied manual force to the head. We do not have such a spring element in our present invention. Here we simply pull on the actuating element and only pull this far as we need the product according to the scale 70.

This mode of operation of the present invention is not shown in U.S. 6,672,486 by Santagiuliana and not at all in U.S. 4,838,460 by Moore and U.S. 6,443,331 by DeJonge.

New independent claim 36 sets forth with specificity the elements of the present invention which allows for the operating mode set forth above. These elements as claimed are arranged in a manner to provide the mode of operation set forth above. The prior art does not show the elements as claimed in independent claim 36 arranged in the manner claimed in independent claim 36

to operate in the manner discussed above. Accordingly, it is believed that independent claim 36 clearly defines over the prior art of record.

In addition to the foregoing, it is submitted that the dependent claims contain patentable merit in their own right. In this regard, it is submitted that the details of the piston element as claimed in claims 43-47 are not shown in the prior art in the manner claimed. Likewise, details of the actuating element as set forth in claims 48 and 49 are not shown or disclosed in the prior art. Finally, details of the attachment as set forth in claims 50 and 51 are not shown in the prior art.

In light of the foregoing, it is respectfully submitted that all of the claims as pending patentably define over the art of record and the early issuance of a formal notice of allowance is respectfully requested.

An earnest and thorough attempt has been made by the undersigned to resolve the outstanding issues in this case and place same in condition for allowance. If the Examiner has any questions or feels that a telephone or personal interview would be helpful in resolving any outstanding issues which remain in this application after consideration of this amendment, the Examiner is courteously invited to telephone the undersigned and the same would be gratefully appreciated.

It is submitted that the claims as amended herein patentably define over the art relied on by the Examiner and early allowance of same is courteously solicited.

If any fees are required in connection with this case, it is respectfully requested that they be charged to Deposit Account No. 02-0184.

Respectfully submitted,

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Annex 1 = Starting or test position

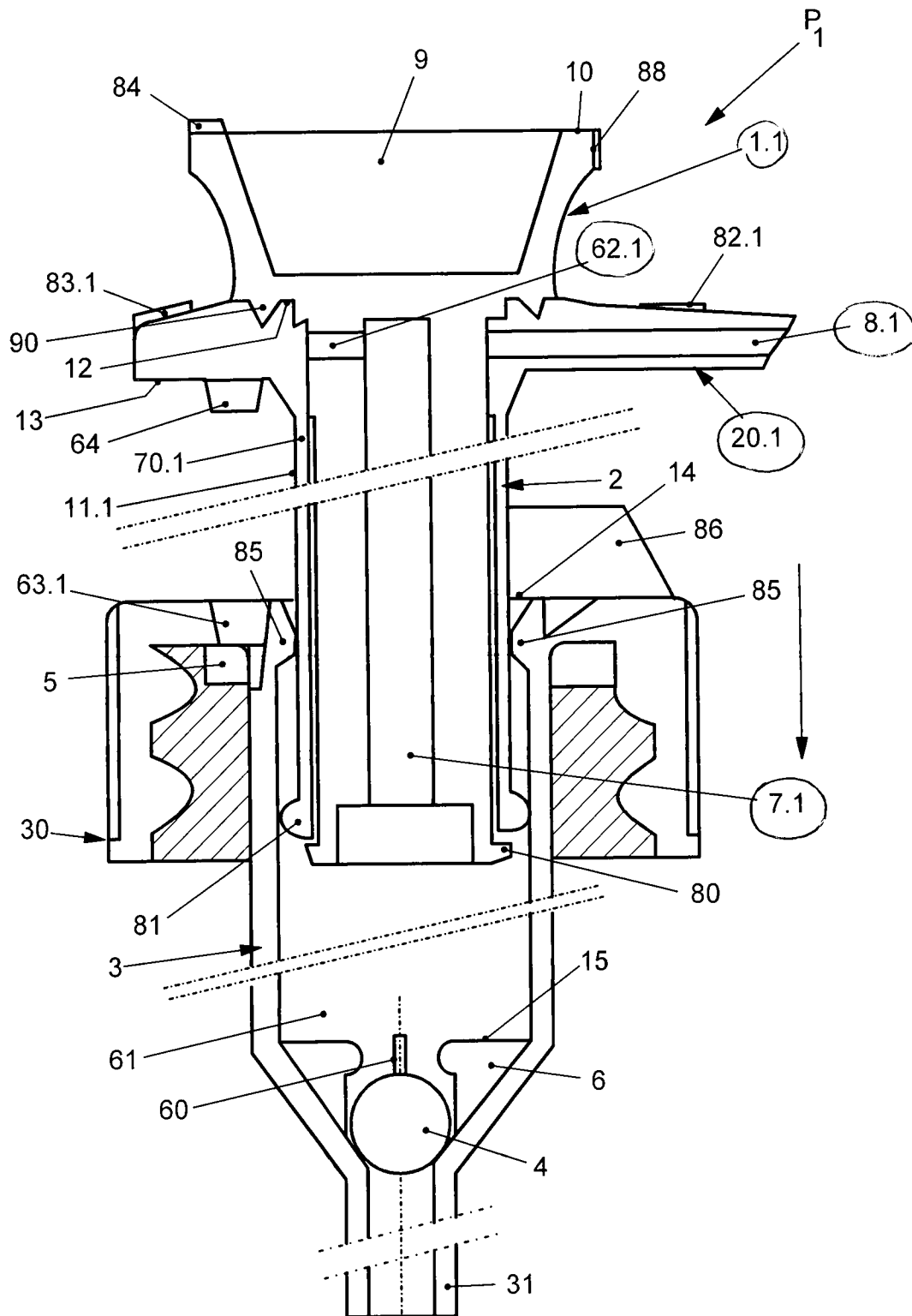


Fig. 1